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TITLE:	Improving Universal Suicide Prevention Screening in Primary Care by Reducing False Negatives
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14. ABSTRACT The primary aim of the proposed project is to develop a shortened version of the Suicide Cognitions Scale (SCS) and to evaluate its efficacy as a universal suicide prevention screen for use in military primary care clinics. We propose to achieve this aim by accomplishing the following objectives: (a) to develop a brief alert algorithm that can be used by primary care providers to accurately identify high-risk patients; (b) to improve the accuracy of universal suicide prevention screening methods by reducing false negative rates; and (c) to systematically quantify false negative rates across various patient subgroups (e.g., gender, race, age, deployment history, etc.) to identify those patient subgroups for whom the screening algorithm is most useful and accurate. Data collection is still in progress. There are no research findings to report at this time.					
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# 1. Introduction

The primary aim of the proposed project is to develop a shortened version of the Suicide Cognitions Scale (SCS) and to evaluate its efficacy as a universal suicide prevention screen for use in military primary care clinics. We propose to achieve this aim by accomplishing the following objectives: (a) to develop a brief alert algorithm that can be used by primary care providers to accurately identify high-risk patients; (b) to improve the accuracy of universal suicide prevention screening methods by reducing false negative rates; and (c) to systematically quantify false negative rates across various patient subgroups (e.g., gender, race, age, deployment history, etc.) to identify those patient subgroups for whom the screening algorithm is most useful and accurate.

## 2. Keywords

Suicide prevention, primary care, suicide screening

## 3. Accomplishments

### 3.1. What were the major goals of the project?

#### **Task 1: Obtain IRB approvals**

- 1a. Initiate IRB proposals (months 1-3)
- 1b. Complete quarterly and annual reports to all IRBs (months 1-48)
- 1c. Complete final report to IRB (month 48)

#### **Task 2: Hire and train staff**

- 2a. Hire and train research manager at University of Utah (months 1-3)
- 2b. Hire and train site evaluators (months 6-20)

#### **Task 3: Begin and complete baseline data collection**

- 3a. Begin enrollment and baseline data collection (months 12-26)
- 3b. Continue baseline data collection (months 13-42)
- 3c. Complete baseline data collection (month 42)

#### **Task 4: Begin and complete longitudinal tracking and follow-up assessments**

- 4a. Begin longitudinal tracking and follow-up assessments (month 18)
- 4b. Continue longitudinal tracking and follow-up assessments (months 19-48)
- 4c. Complete longitudinal tracking and follow-up assessments (month 48)

#### **Task 5: Data analysis, manuscript writing, report writing**

- 5a. Complete data analyses (months 26-48)
- 5b. Manuscript and report writing (months 28-48)

#### **Completion of tasks:**

- 1a. Complete
- 1b. Ongoing
- 1c. Not yet started
- 2a. Complete
- 2b. Complete
- 3a. Complete
- 3b. Ongoing
- 3c. Not yet started
- 4a. Complete
- 4b. Ongoing
- 4c. Not yet started
- 5a. Not yet started
- 5b. Not yet started

### 3.2. What was accomplished under these goals?

#### Major activities:

1. IRB amendment procedures initiated through NHRC and HRPO for each research site added, in addition to meeting site-specific IRB requirements and submitted required paperwork.
2. On 21-OCT-2016 HRPO approval was received to begin recruitment at Naval Medical Center Portsmouth
3. Data collection started at NMCP on 08-NOV-2016.
4. An annual meeting was held 25-JAN-2017 with PIs and site PIs to review the progress of the study and resolve a question regarding allocation of funds to the NHRC IRB.
5. New follow up interviewer, Jacqueline Theriault, hired, trained and added to the IRB on 02-MAR-2017.
6. HRPO approval for MAFB was received on 02-MAR-2017.
7. Site documentation at McConnell Air Force Base and Ft Carson updated. Research assistants (Jerry Brady and Cole Lawson) hired and trained to begin study recruitment and data collection.
8. Received IRB approval for Jerry Brady (MAFB RA) on 03-APR-2017
9. Completed participant recruitment at Hill AFB (14-APR-2017).
10. HRPO approval for Ft Carson was received on 27-MAY-2017.
11. Data collection started at MAFB (22-JUN-2017)
12. Received IRB approval for Cole Lawson (Ft Carson RA) on 06-JUL-2017.
13. Data collection started at Ft Carson (03-AUG-2017)
14. Tasks 3 and 4 have been initiated. On-site data collection at NMCP, MAFB, and Ft Carson is ongoing. Follow-up assessments (1-week, 6-months, 12-months) for all study participants are on-going.
15. 1,337 subjects have been enrolled since the study's start (1,075 new enrollees in FY16-17). Overall, 330 are from Hill AFB, 872 are from NMCP, 95 are from Ft Carson, and 40 are from MAFB. Since the study began, 704 participants have completed week 1 follow-ups, 423 have completed 6 month follow-ups, and 195 have completed 12 month follow-ups. 75 participants have withdrawn thus far. Thus far, outcome events (e.g., suicidal behaviors during follow up) have occurred at the expected rate and in line with power calculations.

#### Specific objectives:

1. Receive IRB approval to start recruitment at Camp Lejeune and hire an additional RA.
2. Continue enrollment at Portsmouth Naval Medical Center, Fort Carson, and McConnell AFB and follow up assessments for Hill Air Force Base, Portsmouth Naval Medical Center, Fort Carson, and McConnell AFB.

Objective 1 is in progress and awaiting final documentation from Camp Lejeune before submission to the IRB. Progress on Objective 2 has been steady and continues as planned.

#### Findings

Initial Results from baseline data collection were presented at 2 conferences:

May, A.M., Bryan, C.J., Thomsen, C., Allen, M., Cunningham, C., Harris, J., Bryan, A., Clemans, T., Storms, M., Fullerton, C., Enright, B., Taylor, K. (2017, August). *Primary Care Screening Methods (PRISM) Study: Design, Methods, and Preliminary Results*. Paper presented at 2017 DoD/VA Suicide Prevention Conference, Denver, CO.

This presentation described the preliminary results from the baseline assessment of the Primary Care Screening Methods (PRISM) project. At the time of presentation, 1,026 service members and dependents had participated. A history of suicidal thoughts was reported by 36% of participants, while 10% reported a history of suicide attempt. Follow up assessment retention rates range from 63% to 75% depending on time point. Critically, 50% of individuals

reporting past month ideation when asked directly did not score above the PHQ-9 cut-off for further suicide screening, suggesting our current screening tools are inadequate. Participants with suicide ideation in the past month scored higher on the SCS than people without past month ideation. Note that data collection is ongoing and results are preliminary

Haddock, L. (2017, April) Panelist for *Enhancing Screening and Safety Planning for Suicide Prevention in Military and Veteran Populations*. Presented at the American Association of Suicidology Annual Meeting, Phoenix, AZ.

This presentation described the design, methods, and retention rates of the Primary Care Screening Methods (PRISM) project. The author discusses challenges and successes of the project, ways to increase recruitment and retention, and the study aims.

### **3.3. What opportunities for training and professional development has the project provided?**

Two research assistants and one graduate student involved in PRISM each presented their work at academic conferences, specifically the American Association of Suicidology and DoD/VA Suicide Prevention Conference. These activities contributed to their professional development

### **3.4. How were the results disseminated to communities of interest?**

Initial findings from analyses of baseline data were presented at the American Association of Suicidology annual meeting (April 2017) and the DoD/VA Suicide Prevention Conference (August 2017)

### **3.5. What do you plan to do during the next reporting period to accomplish the goals?**

During the next reporting period we plan to complete the two objectives identified above to keep in line with the timeline proposed for tasks 3-5:

1. Receive Letter of Support from Camp Lejeune and hire RA
2. Receive IRB approval for Camp Lejeune and new RA
3. Begin enrollment at Camp Lejeune
4. Continue enrollment at Portsmouth Naval Medical Center, Fort Carson, and McConnell AFB and follow up assessments for Hill Air Force Base, Portsmouth Naval Medical Center, Fort Carson, and McConnell AFB.

## **4. Impact**

### **4.1. What was the impact on the development of the principal discipline(s) of the project?**

Nothing to Report.

### **4.2. What was the impact on other disciplines?**

Nothing to Report.

### **4.3. What as the impact on technology transfer?**

Nothing to Report.

### **4.4. What as the impact on society beyond science and technology?**

Nothing to Report.

## 5. Problems/Issues:

### 5.1. Changes in approach and reasons for change

Nothing to Report.

### 5.2. Actual or anticipated problems or delays and actions or plans to resolve them

A Protocol Deviation was reported by an RA on 13-AUG-2017 and reported to the NHRC PI on 14-AUG-2017 and the NHRC IRB on 15-AUG-2017. Recruitment was paused at the site (NMCP) from 14-AUG-2017 until the IRBs investigation was complete and we were approved to resume recruitment on 06-SEP-2017. Additional trainings, checklists and protocol reviews were instituted at all sites to prevent any future deviations.

There has been administrative and staff changes at the NHRC IRB which has slowed down our modifications to add sites and staff. We will continue to be in active communication with the IRB to expedite modifications as much as possible.

### 5.3. Changes that had a significant impact on expenditures

Nothing to Report.

### 5.4. Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents

Nothing to Report.

## 6. Products:

### 6.1. Publications, conference papers, and presentations

May, A.M., Bryan, C.J., Thomsen, C., Allen, M., Cunningham, C., Harris, J., Bryan, A., Clemans, T., Storms, M., Fullerton, C., Enright, B., Taylor, K. (2017, August). *Primary Care Screening Methods (PRISM) Study: Design, Methods, and Preliminary Results*. Paper presented at 2017 DoD/VA Suicide Prevention Conference, Denver, CO.

Haddock, L. (2017, April) Panelist for *Enhancing Screening and Safety Planning for Suicide Prevention in Military and Veteran Populations*. Presented at the American Association of Suicidology Annual Meeting, Phoenix, AZ.

### 6.2. Website(s) or other Internet site(s)

Nothing to Report.

### 6.3. Technologies or techniques

Nothing to Report.

### 6.4. Inventions, patent applications, and/or licenses

Nothing to Report.

### 6.5. Other products

Nothing to Report.

## 7. Participants & Other Collaborating Organizations

### 7.1. What individuals have worked on the project?

Personnel	Role	Percent Effort
Bryan, Craig	Principal Investigator	0.17
Allen, Michael	Co-Investigator	0.10
May, Alexis	Postdoctoral Research Coordinator	1.00
Harris, Julia	Research Manager	1.00
Bryan, AnnaBelle	Evaluator	0.10
Hinkson, Kent	Evaluator	1.00
Williams, Sean	Evaluator	0.50
Theriault, Jacqueline	Evaluator	1.00
Cheney, Tyler	Evaluator	1.00
Haddock, Leslie	Research assistant	1.00
Kawaa, Patricia	Research assistant	1.00
Larson, Cole	Research assistant	1.00
Smith, Logan	Research assistant	1.00
Brady, Jerry	Research assistant	1.00
Reynolds, Mira	Student research assistant	0.80
White, Kirsii	Student research assistant	1.00

### 7.2. Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?

The PI (Bryan) is serving as a co-I on a newly-funded DOD research study awarded to Dr. Eric Garland at the University of Utah. The PI's commitment on this new project does not impact his commitment or work on the present project.

### 7.3. What other organizations were involved as partners?

Naval Health Research Center  
Navy Bureau of Medicine